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McCurry et al.

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(54) **ADJUSTABLE SUSPENDED ROLL PACKAGING SYSTEM**

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B65D 19/44	(2006.01)
B65D 19/06	(2006.01)

(52) **U.S. Cl.**

CPC ***B65D 85/66*** (2013.01); ***B65D 19/06*** (2013.01); ***B65D 19/44*** (2013.01); *B65D 2519/0082* (2013.01); *B65D 2519/00273* (2013.01); *B65D 2519/00293* (2013.01); *B65D 2519/00323* (2013.01); *B65D 2519/00333* (2013.01)

(58) **Field of Classification Search**

CPC B65D 19/06; B65D 19/44; B65D 85/66; B65D 2519/00273; B65D 2519/00293; B65D 2519/00323; B65D 2519/00333; B65D 2519/0082; B65D 2519/00985; B65D 71/0096; B65D 85/672

USPC 206/386, 389, 391, 397–403, 412–416, 206/595–600; 108/54.1, 55.1, 55.3, 55.5

See application file for complete search history.

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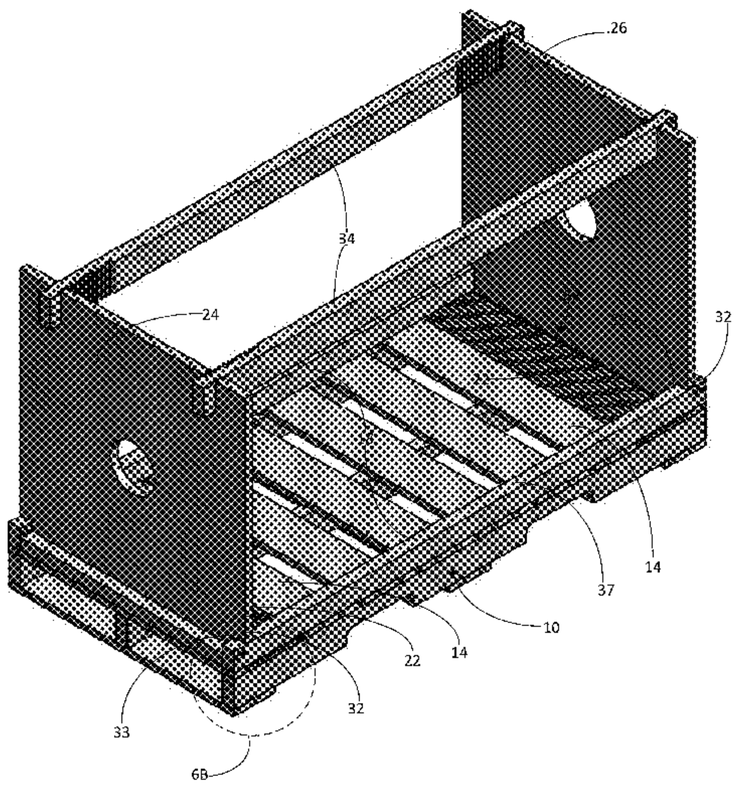
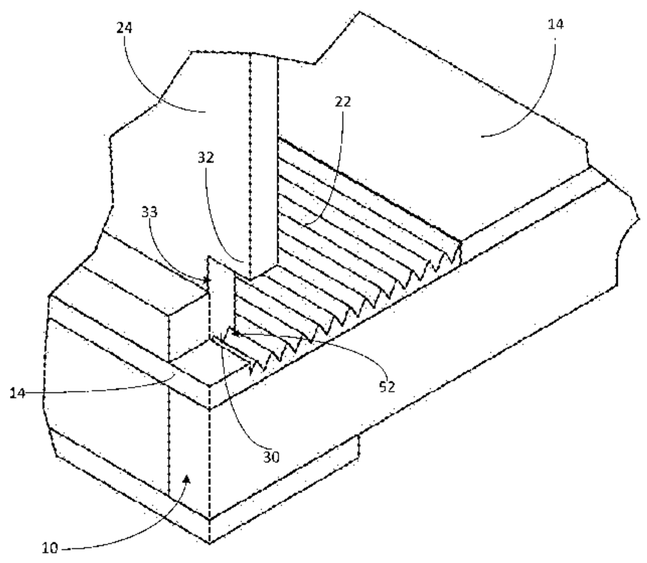
(57) **ABSTRACT**

A base platform carrying a plurality of lower rail members on an upper surface. A pair of opposing laterally spaced end plates engaging the lower rail members. A series of lower positioning teeth formed in the lower rail members. A series of complementary lower connecting teeth included on the end plates engaging the lower positioning teeth. A plurality of upper rail members carried by the end plates. A series of upper positioning teeth formed in the upper rail members. A series of complementary upper connecting teeth included on the end plates engaging the upper positioning teeth of the upper rail members securing the end plates to the upper rail members. The series of upper and lower connecting teeth provide for the end plates to be repositionable along at least a portion of the upper and lower rail members to adjust spacing between the end plates to accommodate various roll sizes.

19 Claims, 11 Drawing Sheets





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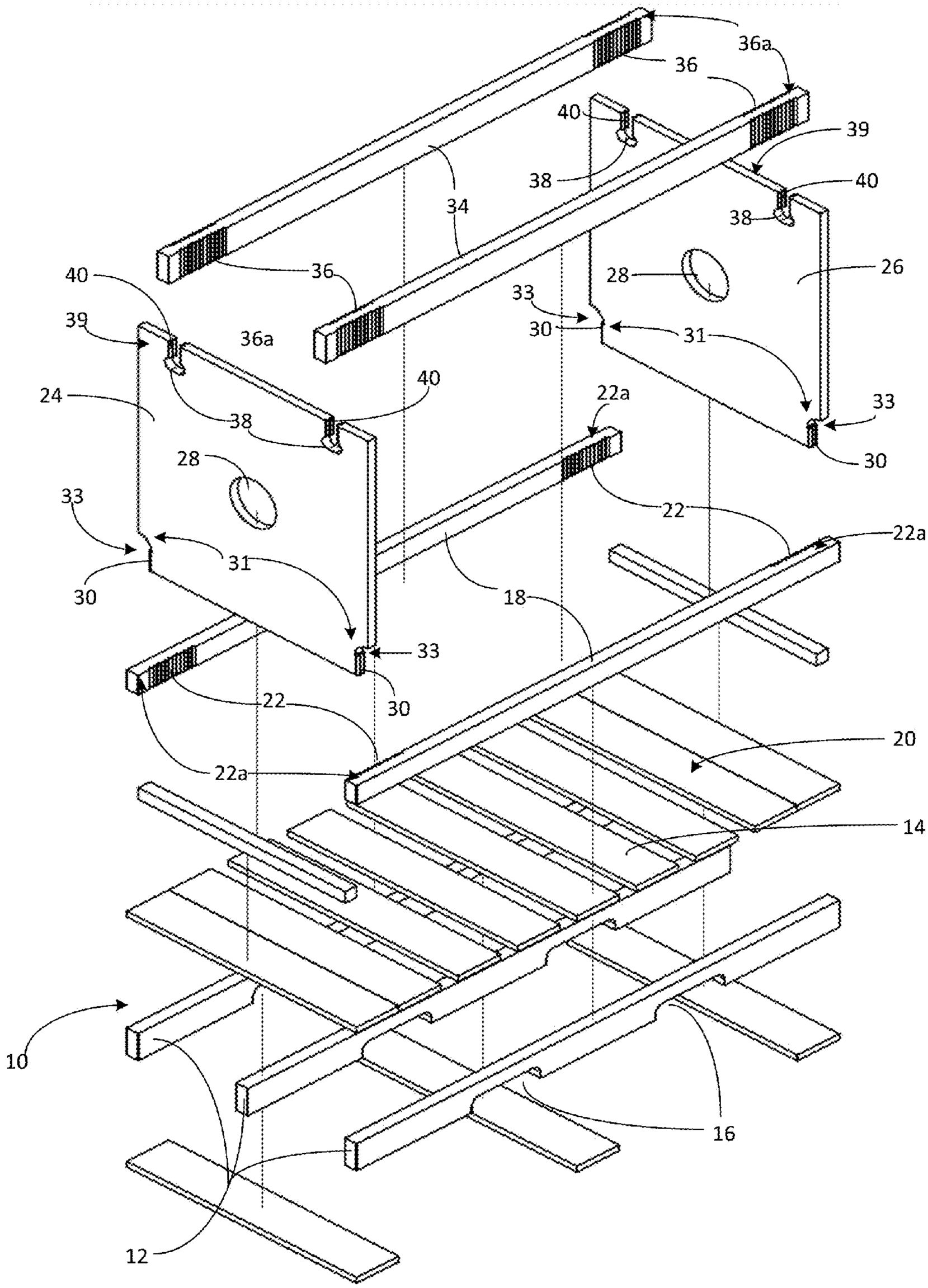
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Fig. 1A

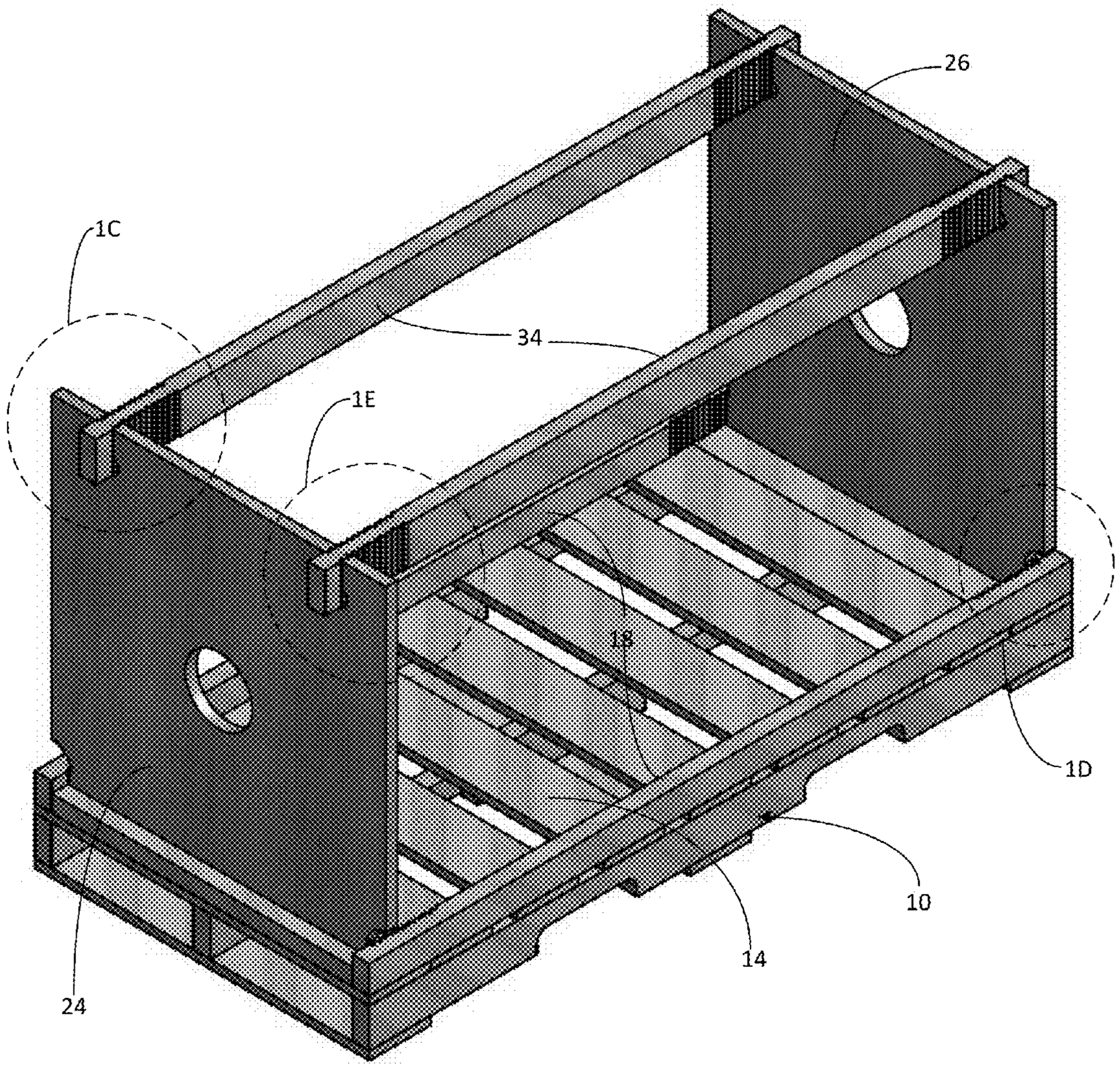

Fig. 1B

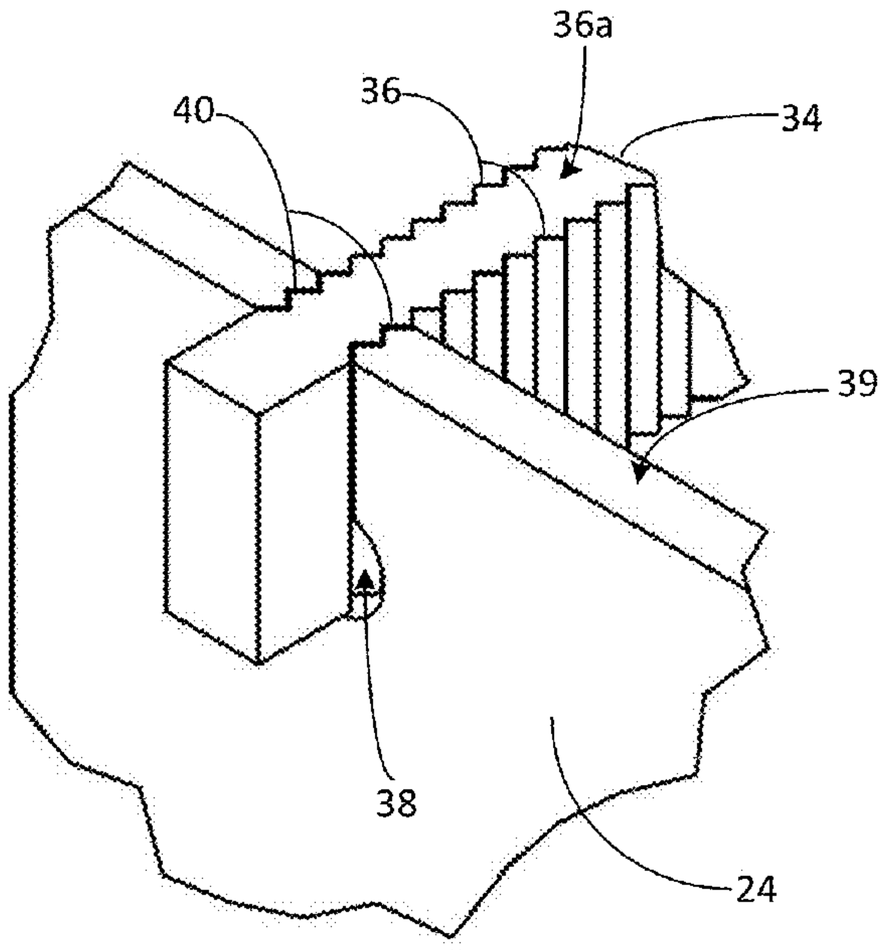

Fig. 1C

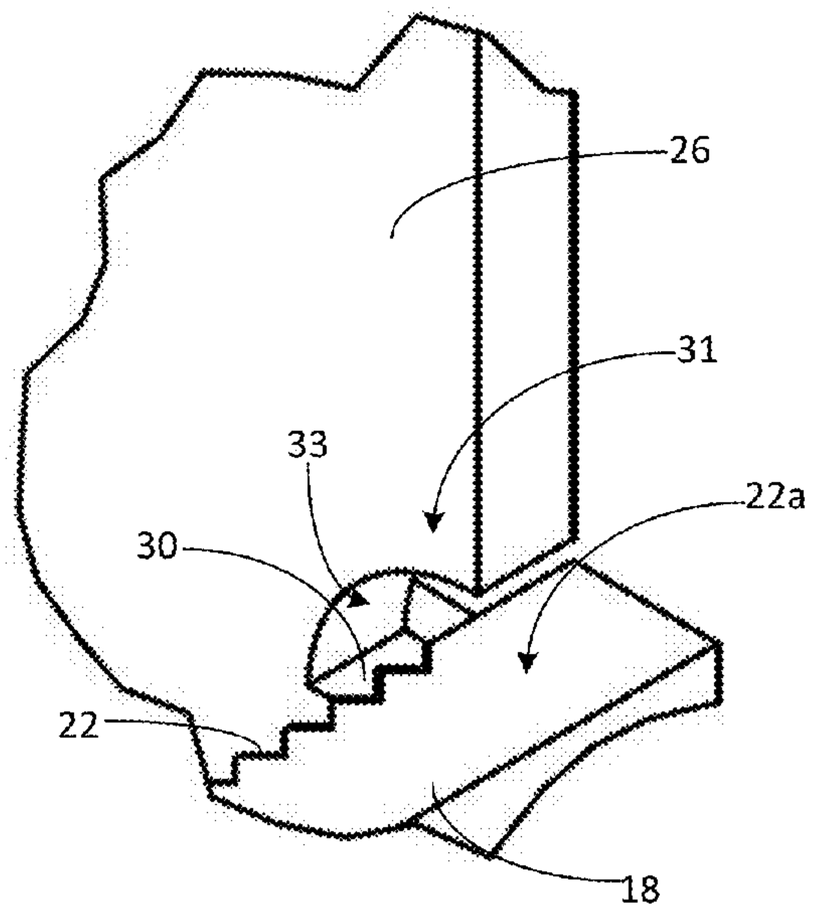

Fig. 1D

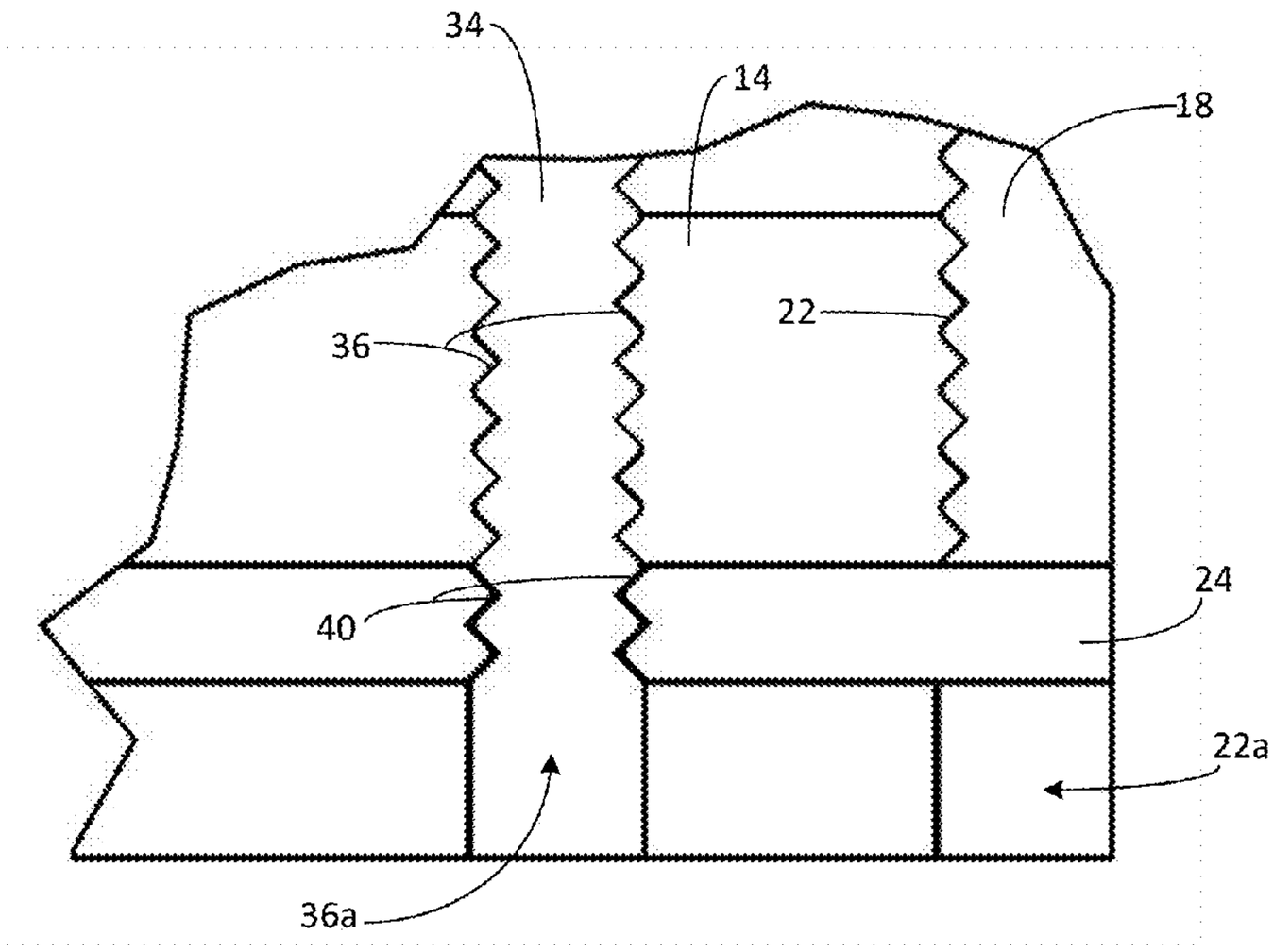

Fig. 1E

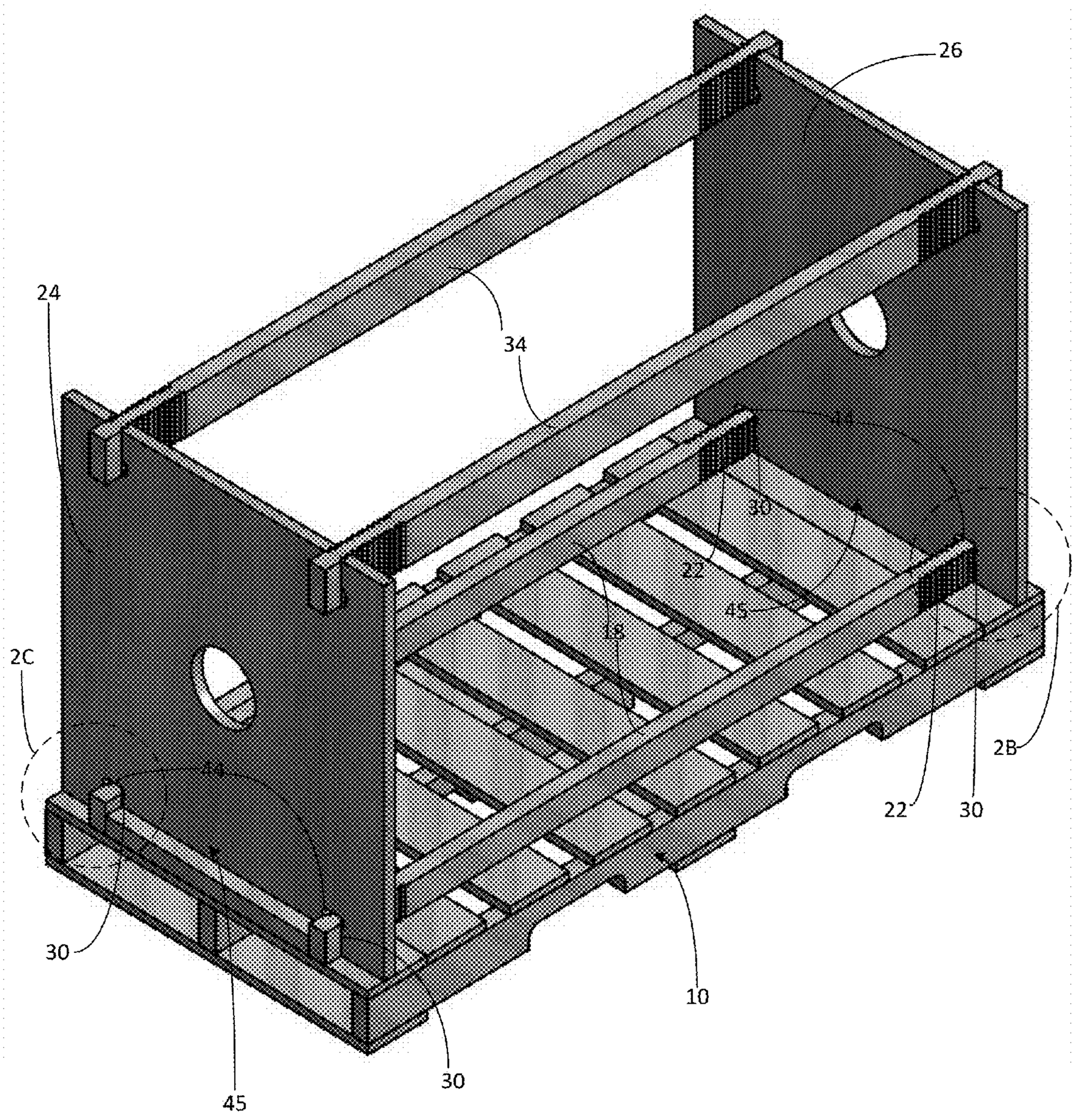

Fig. 2A

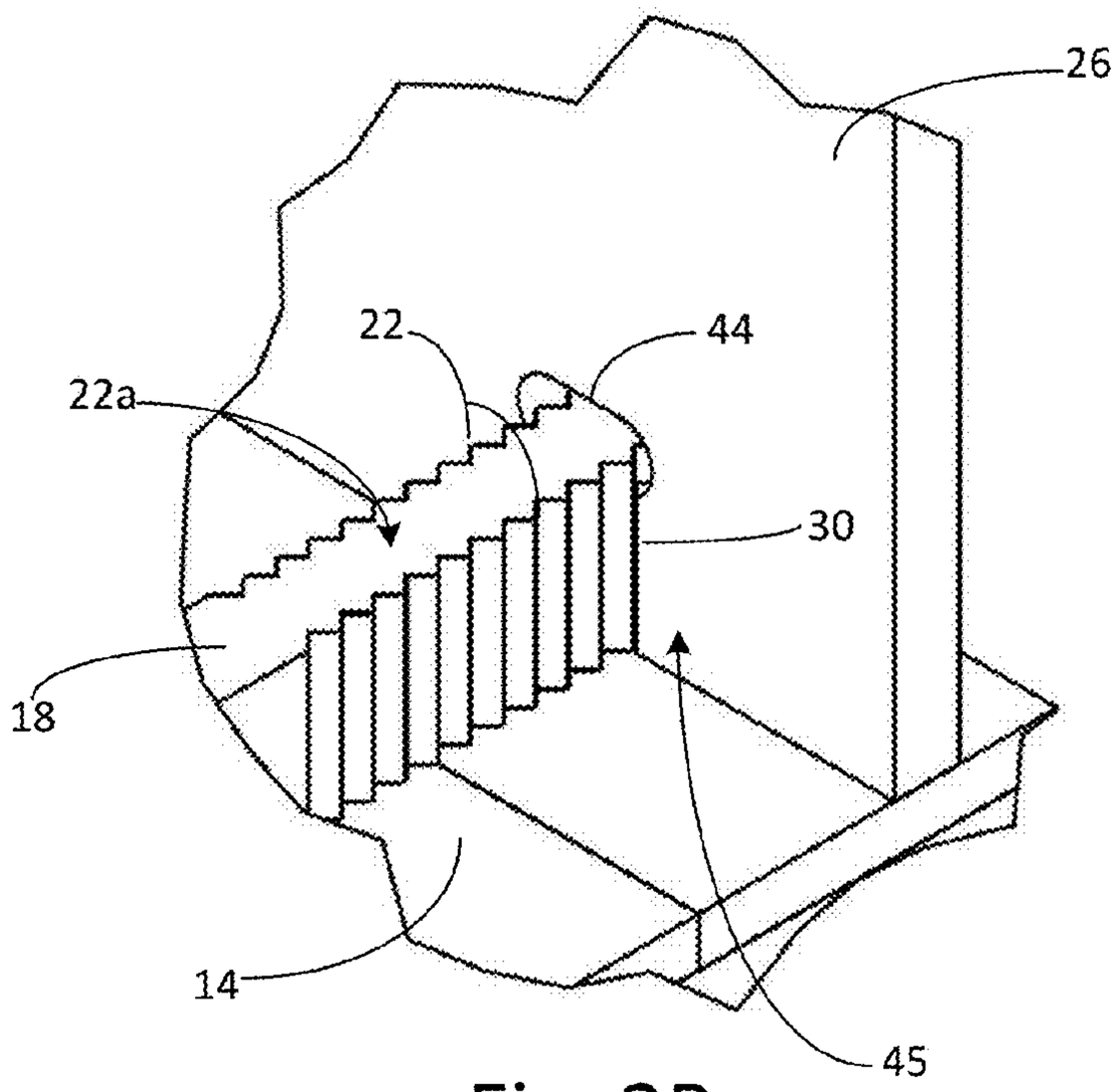

Fig. 2B

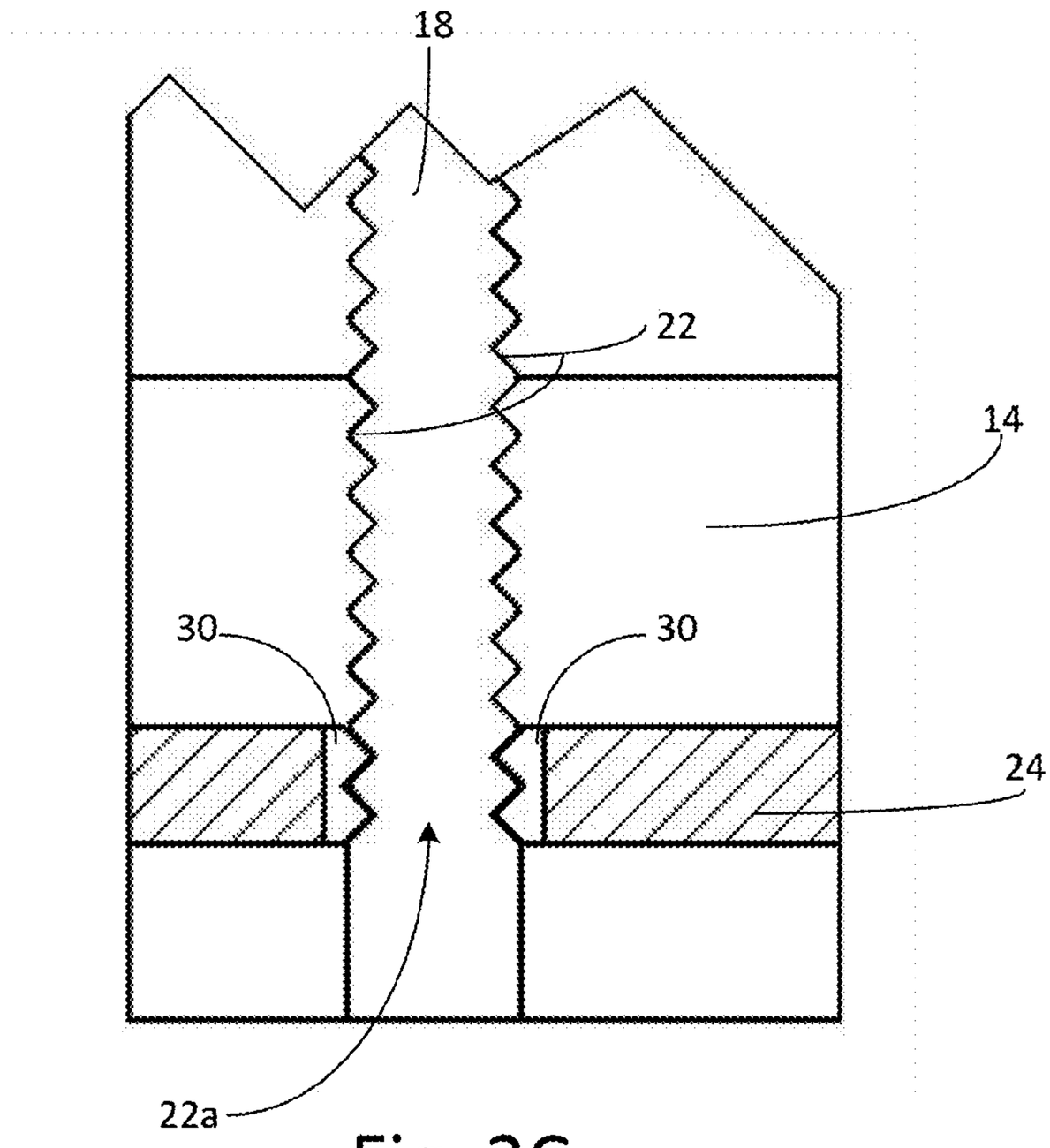

Fig. 2C

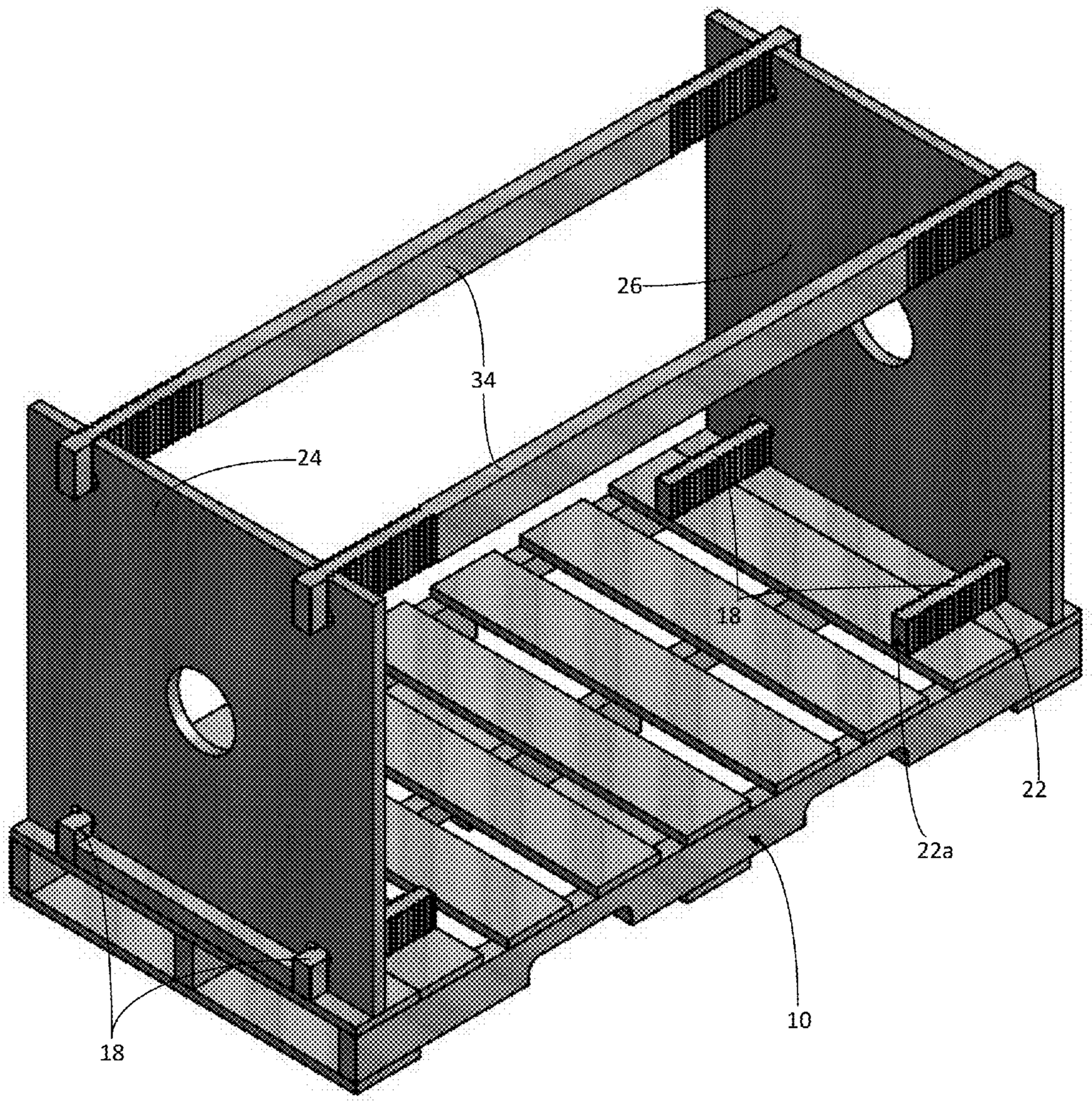

Fig. 3

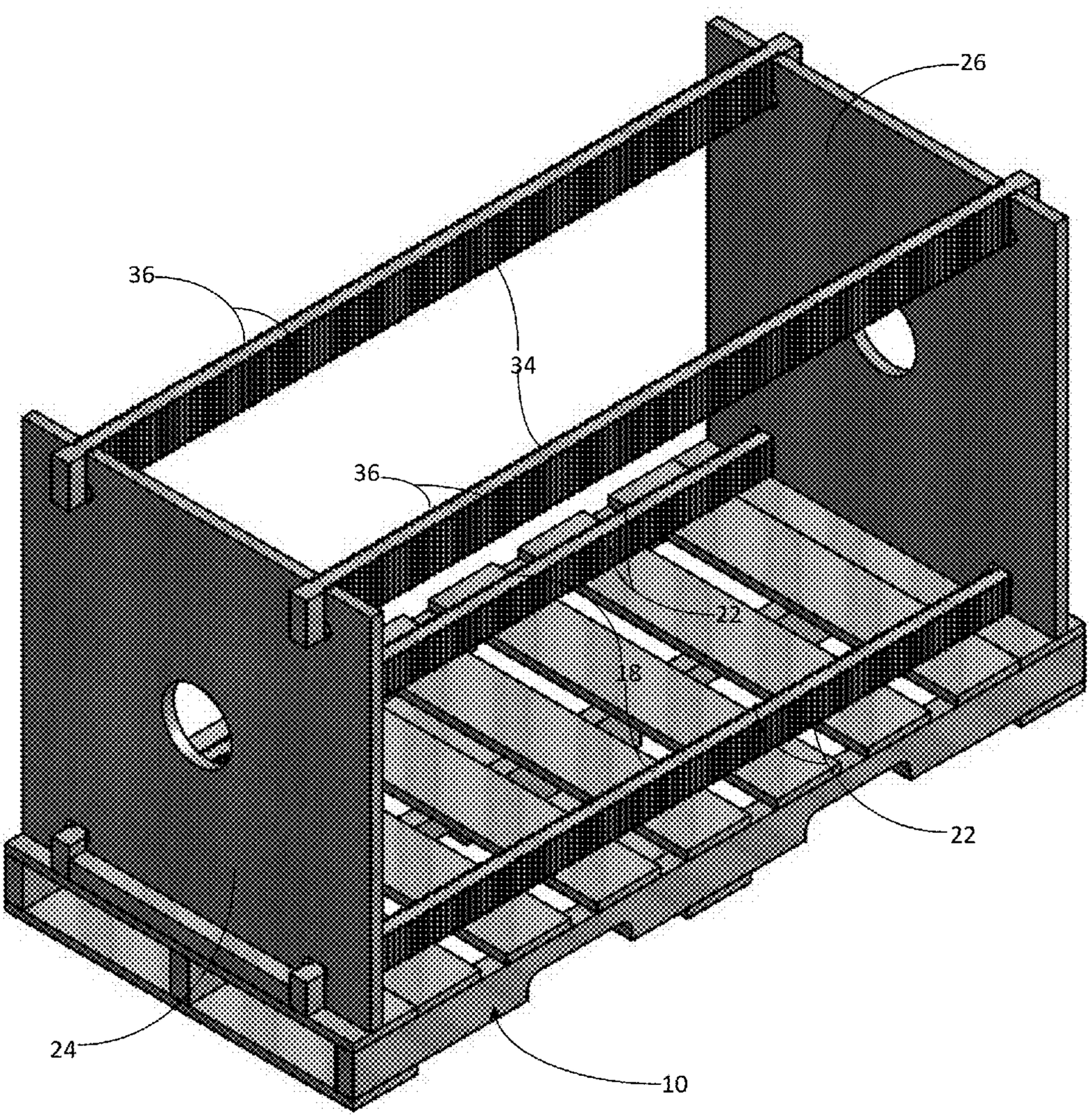

Fig. 4

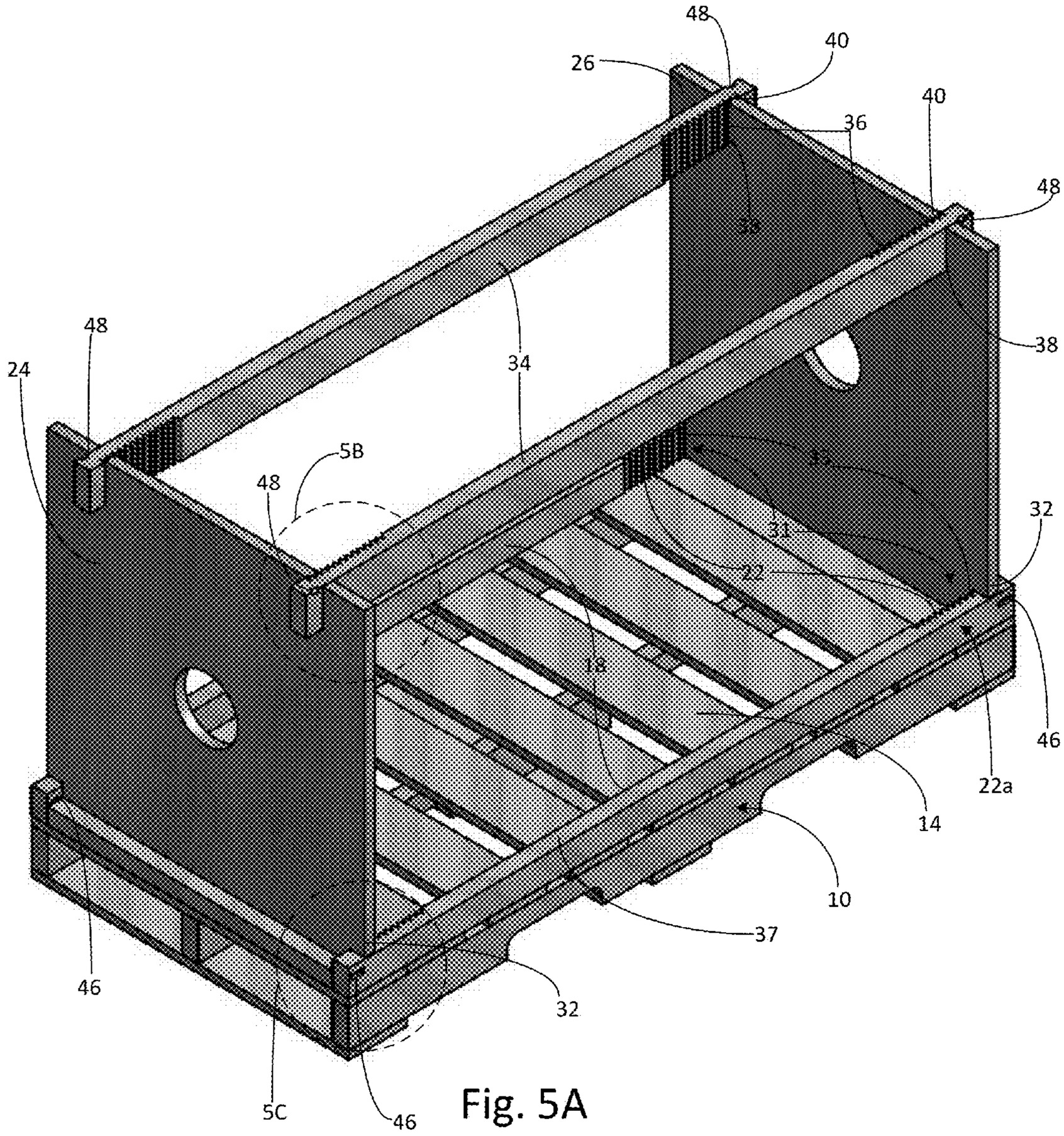
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Fig. 5A

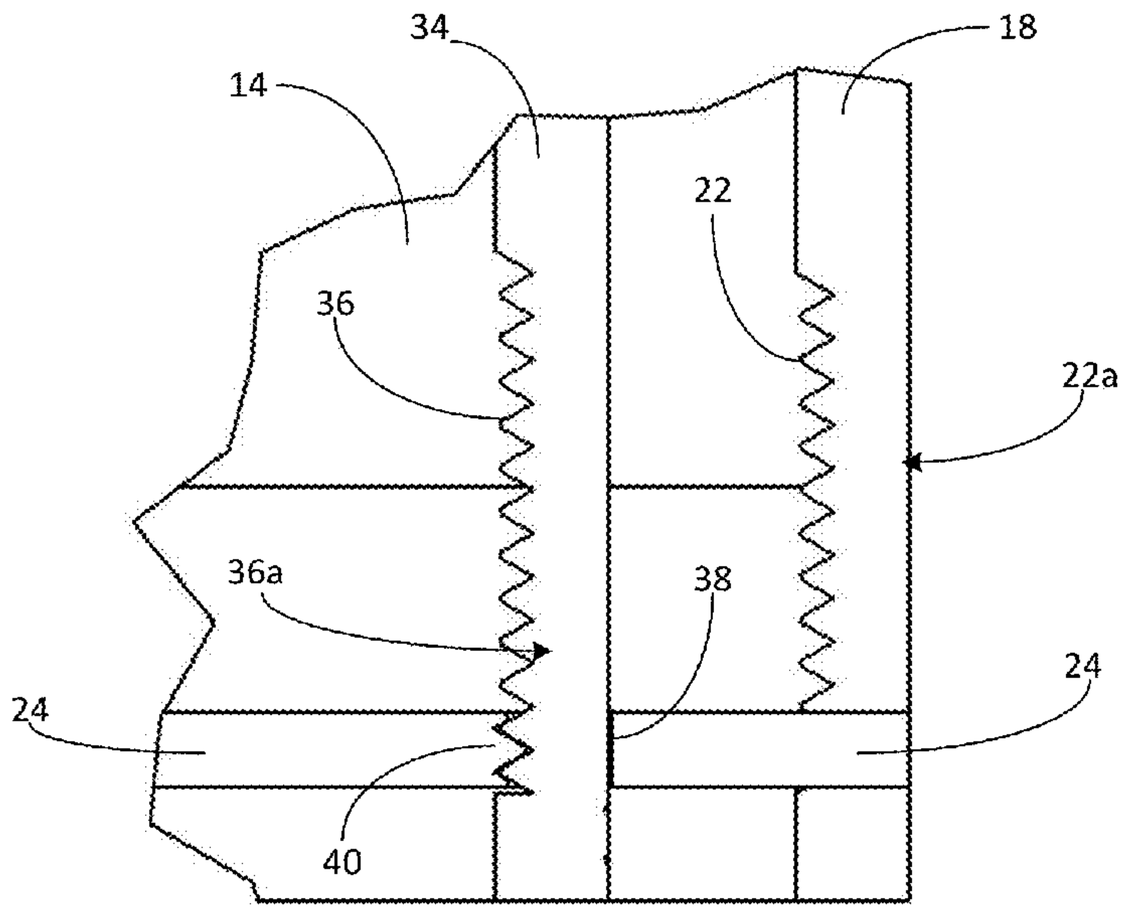

Fig. 5b

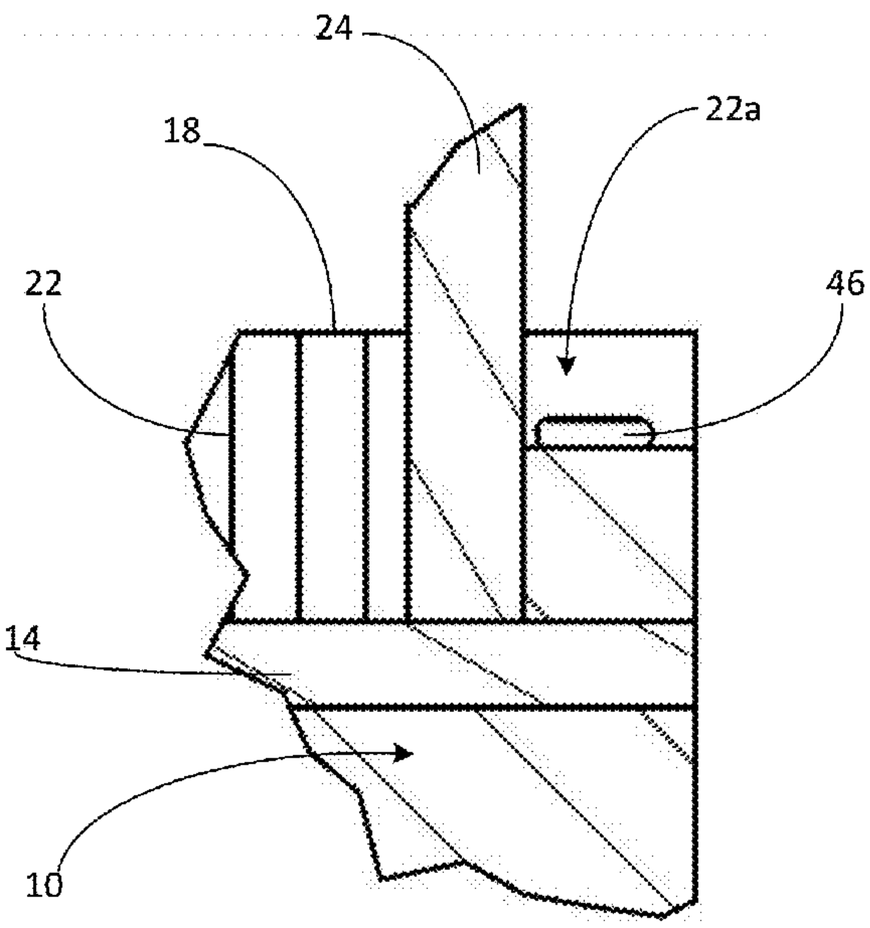

Fig. 5C

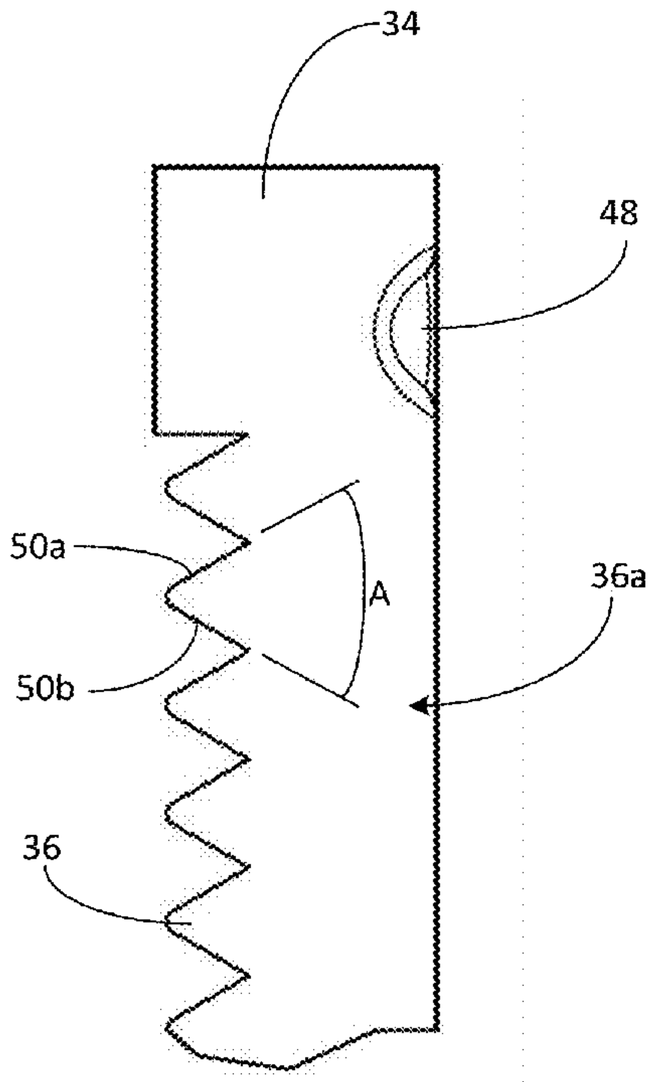

Fig. 5D

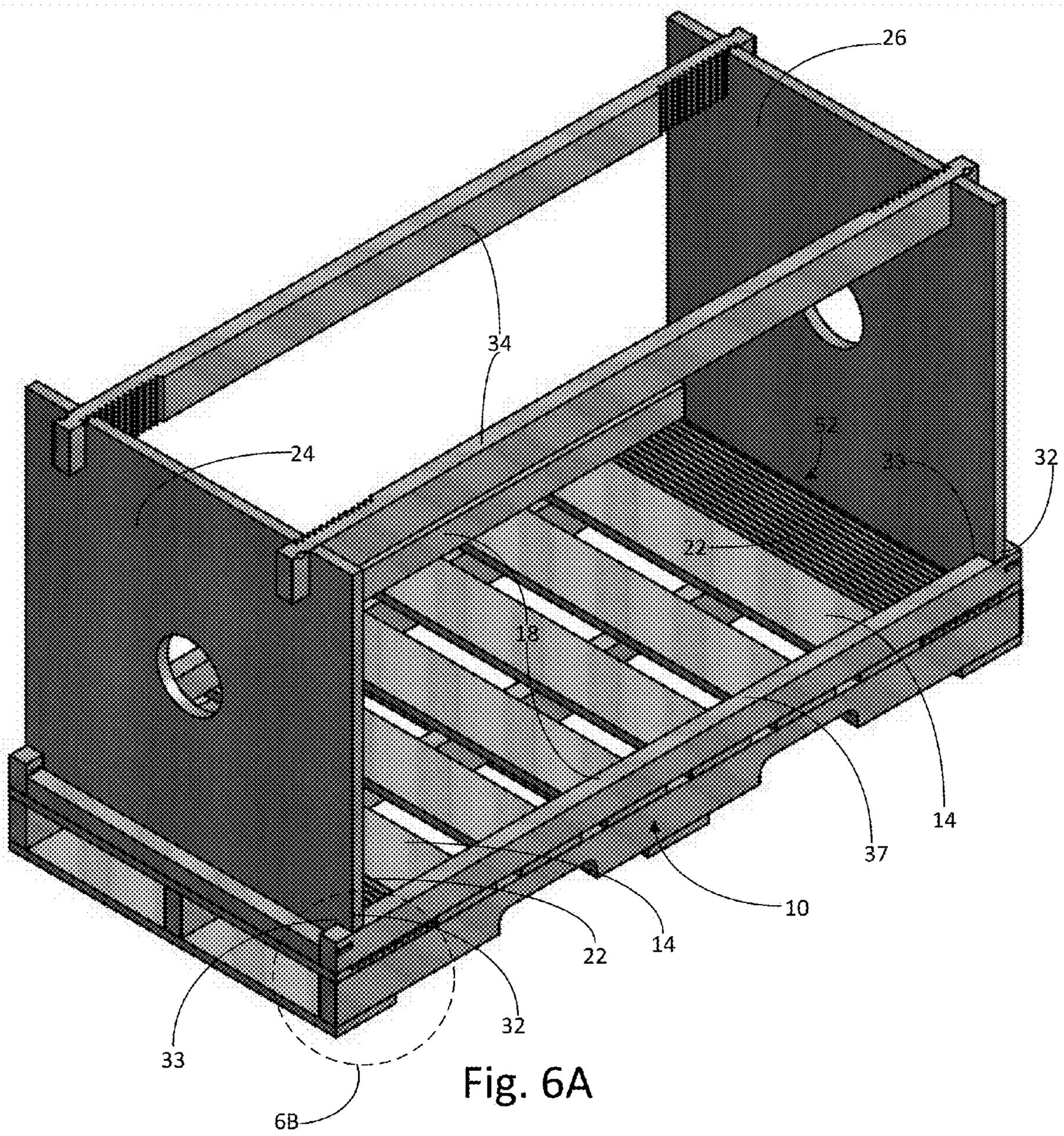

Fig. 6A

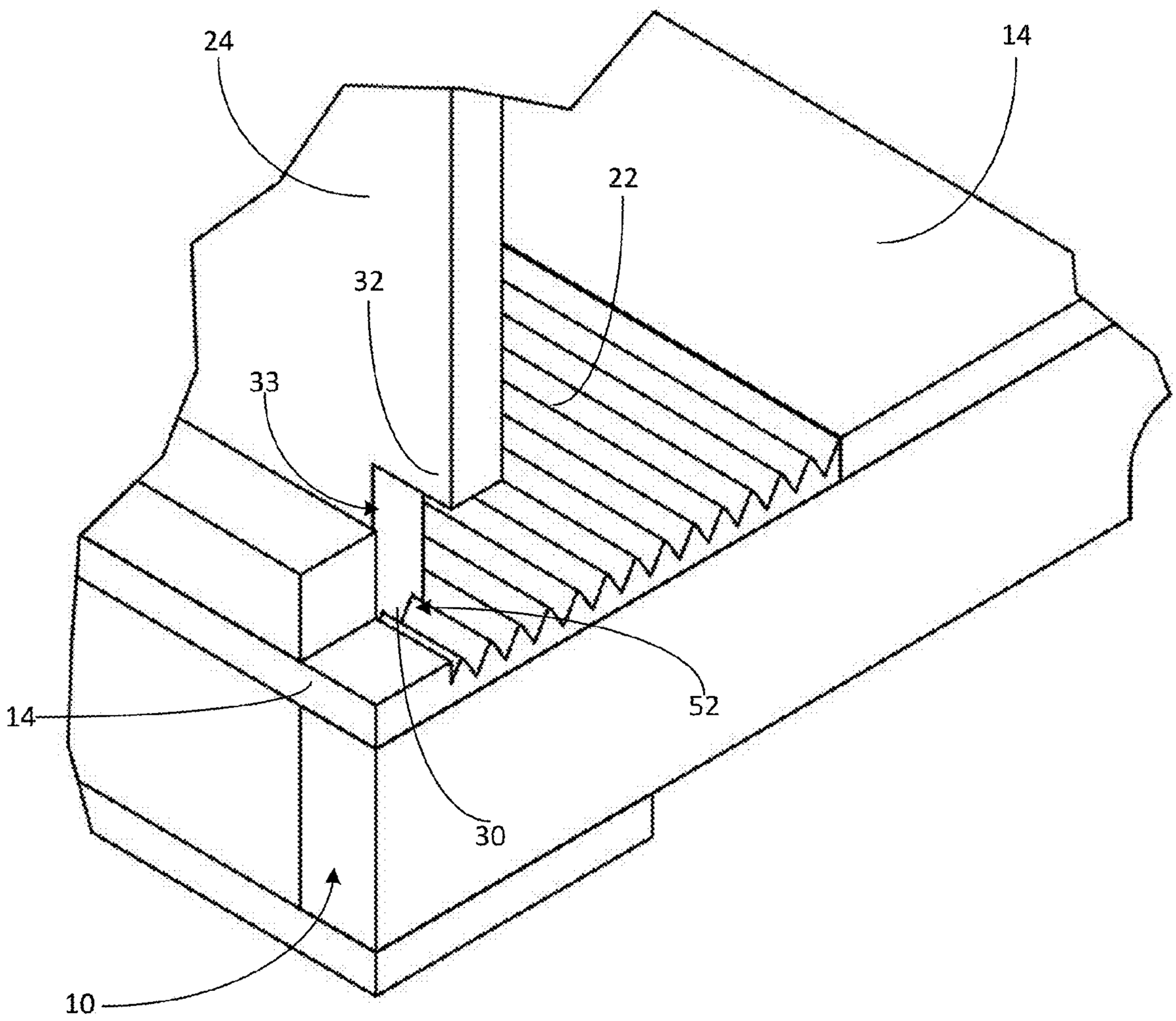

Fig. 6B

ADJUSTABLE SUSPENDED ROLL PACKAGING SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to crate packaging systems, and more particularly, to an adjustable suspended roll packaging systems for storing and shipping large rolls of wound sheet material, such as fabric or plastic, which are carried on elongated cores.

2. Description of Related Art

In various manufacture industries, sheet material such as fabric is often shipped in elongated cylindrical rolls utilizing a supporting elongated core. This is also true for the shipping of plastic film and other such materials that can be wound around an elongated core. Difficulty arises from the material handling viewpoint in that the sizes of the material being shipped can vary in the length of the cores, as well as the width. The variations in the material sizes generally depend upon the particular requirements of the customer and thus require custom packaging solutions for a given roll.

The prior art largely teaches systems in which the elongated material rolls are shipped on pallets having fixed dimensions. The rolls are positioned in end plates having a central opening for receiving the elongated cores. The end plates are secured to the pallets at pre-defined locations, and are not adjustable or repositionable. Accordingly, since the material rolls often vary in length, different sizes of pallets are used to ship the material rolls and a large quantity of different size pallets must be kept in inventory.

The use of pallets having various sizes is inconvenient and expensive. To accommodate for the various sizes of rolls which may be required to be shipped, every warehouse may have over 50 different types of pallets on hand having various widths and lengths with numerous quantities of each type of pallet. Accordingly, there is an excessive amount of money and storage space tied up in pallets which are on hand solely for a particular size shipping job which may or may not be demanded by a customer.

Some efforts have been made in the prior art to provide adjustability to the material roll packaging systems to reduce this problem. However, these systems lack durability and/or ease of use in the connections used to secure the end plates. As such, the systems are cumbersome and require multiple people working in concert to adjust the components. Further, impacts sustained during the normal shipping process can lead to a failure of the packaging system and damage to the material roll.

Accordingly, it is an object of the present invention to provide an adjustable packaging system for suspending material rolls which is easily adjustable by a single person to accommodate different roll lengths, as well as having sufficiently durable construction and arrangement able to survive normal impacts sustained during shipping.

SUMMARY OF THE INVENTION

The above objectives are accomplished according to the present invention by providing an adjustable suspended roll packaging system comprising a base platform; a plurality of lower rail members are carried by an upper surface of the base platform; a first end plate engages the lower rail members; a second end plate engages the lower rail members in an opposing laterally spaced arrangement with the first end plate; a series of lower positioning teeth are formed in each of the lower rail members; a series of complementary lower connecting teeth are included on each of the first and second end plates engage the lower positioning teeth of the lower rail members securing the first and second end plates to the lower rail members; a plurality of upper rail members are carried by the first and second end plates; a series of upper positioning teeth are formed in each of the upper rail members; a series of complementary upper connecting teeth are included on each of the first and second end plates engaging the upper positioning teeth of the upper rail members securing the first and second end plates to the upper rail members; and, wherein the series of upper and lower connecting teeth provide for the first and second end plates to be repositionable along at least a portion of the upper and lower rail members to adjust the spacing between the first and second end plates.

In a further advantageous embodiment, the upper rail members extend from the first end plate to the second end plate and interconnect an upper edge portion on each of the first and second end plates.

In a further advantageous embodiment, the upper rail members extend parallel with the lower rail members.

In a further advantageous embodiment, the upper positioning teeth on the upper rail members extend along the length of upper rail members from a first distal end portion to a second distal end portion.

In a further advantageous embodiment, a plurality of upper slots are disposed in an upper edge portion on each of the first and second end plates, and the upper connecting teeth disposed in the upper slots, wherein the upper rail members are received in the upper slots so that the upper positioning teeth of the upper rail members engage the upper connecting teeth in the upper slots in interlocking engagement.

In a further advantageous embodiment, the upper rail members include upper positioning teeth disposed on opposite side surfaces, and the upper slots include upper connecting teeth on opposing side surfaces so that a first side surface of the upper slots engage with a first side surface of the upper rail members in interlocking engagement, and a second side surface of the upper slots engage with a second side surface of the upper rail members in interlocking engagement.

In a further advantageous embodiment, the lower rail members extend from the first end plate to the second end plate and interconnect a lower edge portion on each of the first and second end plates.

In a further advantageous embodiment, a notch is included in each lower corner of the first and second end plates receiving the lower rail members, and the lower connecting teeth disposed in the notches engaging the lower positioning teeth of the lower rail members.

In a further advantageous embodiment, the lower positioning teeth on the lower rail members extend along the length of lower rail members from a first distal end portion to a second distal end portion.

In a further advantageous embodiment, a plurality of lower slots are disposed in a lower edge portion on each of the first and second end plates, and the lower connecting teeth disposed in the lower slots, wherein the lower rail members are received in the lower slots so that the lower positioning teeth of the lower rail members engage the lower connecting teeth in the lower slots in interlocking engagement.

In a further advantageous embodiment, the lower rail members include lower positioning teeth disposed on opposite side surfaces, and the lower slots include lower connecting teeth on opposing side surfaces so that a first side

surface of the lower slots engage with a first side surface of the lower rail members in interlocking engagement, and a second side surface of the lower slots engage with a second side surface of the lower rail members in interlocking engagement.

In a further advantageous embodiment, a strap slots is disposed in a distal end portion of the lower rail members for receiving a securing strap.

In a further advantageous embodiment, each tooth of the upper and lower connecting teeth and the upper and lower positioning teeth has two inclined engaging surfaces intersecting at a peak in which opposing tooth engaging surfaces are angled at approximately 60 degrees relative to each other.

In a further advantageous embodiment, the series of lower positioning teeth are formed in the upper surface of the base platform. Further, at least one connecting tooth is disposed on a lower edge surface of each the first and second end plates engaging the lower positioning teeth on the base platform in interlocking engagement.

BRIEF DESCRIPTION OF THE DRAWINGS

The construction designed to carry out the invention will hereinafter be described, together with other features thereof. The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings forming a part thereof, wherein an example of the invention is shown and wherein:

FIGS. **1**A-**1**E show various aspects of a first embodiment of an adjustable suspended roll packaging system according to the present invention;

FIGS. **2**A-**2**C show various aspects of a second embodiment of an adjustable suspended roll packaging system according to the present invention;

FIG. **3** shows a perspective view of a third embodiment of an adjustable suspended roll packaging system according to the present invention;

FIG. **4** shows a perspective view of a forth embodiment of an adjustable suspended roll packaging system according to the present invention;

FIGS. **5**A-**5**D show various aspects of a fifth embodiment of an adjustable suspended roll packaging system according to the present invention; and,

FIGS. **6**A-**6**B show various aspects of a sixth embodiment of an adjustable suspended roll packaging system according to the present invention

It will be understood by those skilled in the art that one or more aspects of this invention can meet certain objectives, while one or more other aspects can meet certain other objectives. Each objective may not apply equally, in all its respects, to every aspect of this invention. As such, the preceding objects can be viewed in the alternative with respect to any one aspect of this invention. These and other objects and features of the invention will become more fully apparent when the following detailed description is read in conjunction with the accompanying figures and examples. However, it is to be understood that both the foregoing summary of the invention and the following detailed description are of preferred embodiments and not restrictive of the invention or other alternate embodiments of the invention. In particular, while the invention is described herein with reference to specific embodiments, it will be appreciated that the description is illustrative of the invention and is not constructed as limiting of the invention.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

With reference to the drawings, the invention will now be described in more detail. Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood to one of ordinary skill in the art to which the presently disclosed subject matter belongs. Although any methods, devices, and materials similar or equivalent to those described herein can be used in the practice or testing of the presently disclosed subject matter, representative methods, devices, and materials are herein described.

Unless specifically stated, terms and phrases used in this document, and variations thereof, unless otherwise expressly stated, should be construed as open ended as opposed to limiting. Likewise, a group of items linked with the conjunction "and" should not be read as requiring that each and every one of those items be present in the grouping, but rather should be read as "and/or" unless expressly stated otherwise. Similarly, a group of items linked with the conjunction "or" should not be read as requiring mutual exclusivity among that group, but rather should also be read as "and/or" unless expressly stated otherwise.

Furthermore, although items, elements or components of the disclosure may be described or claimed in the singular, the plural is contemplated to be within the scope thereof unless limitation to the singular is explicitly stated. The presence of broadening words and phrases such as "one or more," "at least," "but not limited to" or other like phrases in some instances shall not be read to mean that the narrower case is intended or required in instances where such broadening phrases may be absent.

Referring to FIGS. **1**A-**1**E, a first embodiment of an adjustable suspended roll packaging system is shown. The packing system includes a base platform, designated generally as **10**. Base platform **10** includes a series of base support beams **12** carrying an arrangement of floor boards **14**. Preferably, base platform **10** is arranged to allow for fork lift engagement by including recesses **16** in base support beams **12**.

A plurality of lower rail members **18** are carried on an upper surface **20** of floor boards **14** of base platform **10**. Lower rail members **18** are secured to upper surface **20** of base platform **10**. A series of lower positioning teeth **22** are formed into each of lower rail members **18**. In the illustrated embodiment, lower positioning teeth **22** are define by a series of grooves and ridges formed into lower rail members **18** and extending along at least a distal end portion **22***a* of each of rail member **18**. In the embodiment of FIGS. **1**A-**1**E, lower positioning teeth **22** are disposed only along an inner side surface **23** of rail members **18**.

Referring to FIGS. **1**A-**1**E, a first end plate **24** and a second end plate **26** engage both of lower rail members **18**. First and second end plates **24**, **26** are carried in an opposing laterally spaced arrangement. In the illustrated embodiment, first and second end plates **24**, **26** are positioned within distal end portion **22***a* for engaging lower positioning teeth **22** of lower rail members **18**. An elongated core (not pictured) that carries the material roll (not pictured) is positioned within central opening **28** in each of opposing end plates **24** and **26** to suspend the material over floor boards **14**.

A series of lower connecting teeth **30** are included on each of first and second end plates **24** and **26**. In the embodiment of FIGS. **1**A-**1**E, lower connecting teeth **30** are disposed at the lower corners, designated generally as **31**, on each of first and second end plates **24**, **26** and arranged facing outward

toward lower rail members **18**. Referring to FIG. **1**D, a notch, designated generally as **33**, is carved out of each lower corner **31** of first and second end plates **24**, **26**, which receives lower rail members **18**. Lower connecting teeth **30** are recessed in the notches and engage lower positioning teeth **22** of lower rail members **18**. In the illustrated embodiment, lower rail members **18** extend between and interconnect lower corners of opposing first and second end plates **24**, **26**.

Referring to FIGS. **5**A and **6**A, in a further embodiment, an overhang **32** is formed by each notch in the lower corners **31** of first and second end plates **24**, **26**. In the embodiments shown in FIGS. **5**A and **6**A, overhang **32** can be constructed and arranged to engage a top side **37** of lower rail members **18** to assist in stabilizing end plates **24** and **26** in position relative to lower rail members **18**.

Referring to FIGS. **1**A-**1**E, lower connecting teeth **30** are complementary in shape to and adapted for engaging lower positioning teeth **22** to secure first and second end plates **24** and **26** in selected position along distal end portions **22***a* of lower rail members **18**. Preferably, lower connecting teeth **30** include a plurality of teeth projected from each lower corner of first and second end plates **24** and **26**. However, the arrangement can be accomplished with a single lower connecting tooth on each lower corner of first and second end plates **24**, **26**. First and second end plates **24** and **26** can be positioned by sliding the end plates vertically downward so that lower connecting teeth **30** engage with lower positioning teeth **22**. Accordingly, repositioning first and second end plates **24**, **26** simply requires raising the end plates up again, selecting the new position along distal end portions **22***a* of lower rail members **18** and lowering the end plates back down into interlocking engagement. The interlocking arrangement of the engaging complementary teeth **22** and **30** does not require any tools or other connecting members such as screws and the like.

In the illustrated embodiment of FIGS. **1**A-**1**E, a plurality of upper rail members **34** are carried by first and second end plates **24** and **26** to reinforce an upper edge portion **39** of first and second end plates **24**, **26**. As illustrated, upper rail members **34** are arranged to extend along the length of base platform **10** generally parallel with lower rail members **18**. Upper rail members extend from first end plate **24** to second end plate **26** and interconnect upper edge portions **39** on each of first and second end plates **24**, **26**. A series of upper positioning teeth **36** are formed in each of upper rail members **34**. As with lower positioning teeth **22**, upper positioning teeth **36** are define by a series of grooves and ridges extending along at least a portion of each of upper rail members **34**. In the illustrate embodiment, upper positioning teeth **36** are disposed along a distal end portion **36***a* in a complementary arrangement to lower rail members **18** and lower positioning teeth **22**.

Each of upper rail members **34** are received into a respective upper slots **38** disposed along an upper edge portion **39** of first and second end plates **24** and **26**. A series of complementary upper connecting teeth **40** are disposed in upper slots **38** for engaging upper positioning teeth **36** to secure first and second end plates **24** and **26** in position along distal end portion **36***a* of upper rail members **34** in interlocking engagement.

In the embodiment of FIGS. **1**A-**1**E, upper positioning teeth **36** are preferably disposed along both vertical opposite side surfaces of upper rail members **34**. Upper slots **38** include complementary upper connecting teeth **40** on opposing side surfaces so that a first side surface of upper slots **38** engage with a first side surface of upper rail members **34** in interlocking engagement, and a second side surface of upper slots **38** engage with a second side surface of upper rail members **34** in interlocking engagement.

Upper connecting teeth **40** are complementary in shape to and adapted for engaging upper positioning teeth **36** to secure the upper edge portion **39** of first and second end plates **24** and **26** in selected position along distal end portions **36***a* of upper rail members **34**. Preferably, upper connecting teeth **40** include at least two teeth projected from vertical opposing side surfaces within each of upper slots **38** for engaging complementary upper positioning teeth on the vertical side surface of each upper rail member **34**. First and second end plates **24** and **26** can be positioned relative to upper rail members **34** by sliding rail members **34** vertically upward out of upper slots **38**, repositioning first and second end plates relative to lower rail members **18** as detailed above, and then lowering upper rail members **34** back into interlocking engagement within upper slots **38** so that upper connecting teeth **40** engage with upper positioning teeth **36**. The interlocking arrangement of the engaging complementary teeth **36** and **40** does not require any tools or other connecting members such as screws and the like.

Referring to FIGS. **2**A-**2**C, in this alternative embodiment of the packaging system, lower rail members **18** include lower positioning teeth **22** disposed on both vertical side surfaces to increase interlocking engagement with first and second end plates **24**, **26**. Accordingly, first and second end plates **24** and **26** now each include a plurality of lower slots **44** along a lower edge portion **45** for receiving lower rail members **18** in the same arrangement as upper rail members **34** are received into upper slots **38** in the embodiment of FIGS. **1**A-**1**E.

In the illustrated embodiment of FIGS. **2**A-**2**C, a series of complementary lower connecting teeth **30** are disposed on opposing side surfaces of lower slots **44** for engaging lower positioning teeth **22** on both sides of lower rail members **18** to secure first and second end plates **24** and **26** in position along lower rail members **18**. Thus, by engaging both vertical side surfaces of lower rail members **18** with interlocking teeth, the interlocking engagement is effectively doubled.

Referring to FIG. **2**A, in the illustrated embodiment, lower rail members **18** extend across upper surface **20** from first end plate **24** to said second end plate **26** and interconnect lower edge portion **45** on each of first and second end plates **24**, **26**.

Referring to FIG. **3**, an alternative embodiment of the packaging system is illustrated in which lower rail members **18** are segmented into a plurality of smaller portion for cooperating with first and second end plates **24** and **26** in the same interlocking engagement described above in the embodiment of FIGS. **2**A-**2**C. In the embodiment of FIG. **3**, each of the smaller lower rail members **18** is secured to base platform **10**. Lower rail members **18** again include a series of lower positioning teeth **22** extending along both vertical side surfaces of each rail member **18**. In the illustrated embodiment of FIG. **3**, first and second end plates **24** and **26** again each include lower slots **44** along lower edge portions **45** for receiving lower rail members **18** in the same arrangement detailed above for FIGS. **2**A-**2**C. A series of complementary lower connecting teeth **30** are disposed in lower slots **44** for engaging lower positioning teeth **22** to secure first and second end plates **24** and **26** in position along lower rail members **18**. Thus, by engaging both vertical side surfaces of lower rail members **18** with interlocking teeth, the interlocking engagement is effectively doubled, but without lower rail members **18** extending between first and

second end plates **24**, **26** along the length of base platform **10** as may be required to accommodate certain material rolls, as well as reducing some material costs associated with rail members **18**.

Referring to FIG. **4**, this alternative embodiment of the packaging system is shown that is largely similar in arrangement to the embodiment of FIGS. **2**A-**2**C, with the exception that lower positioning teeth **22** of lower rail members **18** and upper positioning teeth **36** of upper rail members **34** extended entirely along the length of both vertical side surface on the lower and upper rail members **18**, **34** from a first distal end portion to a second distal end portion. Accordingly, upper and lower slots **38** and **44** of first and second end plates **24** and **26** are repositionable for interlocking engagement at any location along the length of upper and lower rail members **34** and **18** to provide maximum flexibility in accommodating various material roll lengths.

Referring to FIGS. **5**A-**5**D, a further embodiment of the packaging system is shown having an arrangement similar to the embodiment of FIGS. **1**A-**1**E, except that upper rail members **34** illustrate upper positioning teeth **36** disposed along a single vertical side surfaces of upper rail members **34**. As best shown in FIG. **5**B, upper slots **38** of first and second end plates **24**, **26** includes complementary upper connecting teeth **40** disposed on only one side surfaces of the slot for engaging upper positioning teeth **36** of upper rail members **36** in interlocking engagement.

Referring to FIG. **5**A, lower rail members **18** engage first and second end plates in the same basic manner as described above for FIGS. **1**A-**1**E. As such, lower connecting teeth **30** on each of first and second end plates **24** and are disposed at the lower corners, designated generally as **31**, and arranged facing outward toward lower rail members **18**. Notches **33** receives lower rail members **18**. Lower connecting teeth **30** are recessed in the notches and engage lower positioning teeth **22** of lower rail members **18**. In the illustrated embodiment, lower rail members **18** extend between and interconnect lower corners of opposing first and second end plates **24**, **26**. Overhang **32** engages top side **37** of lower rail members **18** to assist in stabilizing end plates **24** and **26** in position relative to lower rail members **18**.

Referring to FIGS. **5**A and **5**C, distal end portions **22***a* of lower rail members **18** include a strap slot **46** for receiving a securing strap. Additionally, in the illustrated embodiment of FIGS. **5**A and **5**D, a bull nose banding notch **48** is disposed in distal end portion **36***a* of upper rail members **34**. Accordingly, a securing strap can be passed though strap slot **46** in lower rail members **18** and over upper rail members **34** at bull nose banding notch **48** to interconnect upper and lower rail members **18**, **34** to resist separation of the rail members from first and second end plates **24**, **26**. Securing strap **46** and bull nose banding notch **48** can be applied and used in each embodiment detailed herein as desired to improve resilience of the packaging system.

Referring to FIG. **5**D, for each of the embodiments detailed herein, each tooth of upper and lower connecting teeth **40**, **30** and upper and lower positioning teeth **36**, **22** has two inclined engaging surfaces **50***a* and **50***b* intersecting at a peak in which opposing tooth engaging surfaces **50***a* and **50***b* are angled at approximately 60 degrees relative to each other, designated generally as angle "A".

Referring to FIGS. **6**A-**6**B, a further embodiment of the packaging system is shown having an arrangement similar to the embodiment of FIGS. **5**A-**5**D, except that lower positioning teeth **22** are moved from lower rail members **18** to floor boards **14** of base platform **10**. In the illustrated embodiment, a series of lower positioning teeth **22** are formed in an upper surface of base platform **10** on floor boards **14**. At least one connecting tooth **30** is disposed on a lower edge surface, designated generally as **52** (FIG. **6**B), of each of first and second end plates **24**, **26** engaging lower positioning teeth **22** on floor boards **14** of base platform **10** in interlocking engagement.

As noted above, a notch **33** is included in each lower corner of first and second end plates **24**, **26** receiving lower rail members **18** so that overhang **32** engages top side **37** of lower rail members **18** to assist in stabilizing end plates **24** and **26** in position relative to lower rail members **18**. While no lower positioning teeth **22** are disposed in notch **33** for engaging lower rail members **18**, the arrangements described in the above alternative embodiments for interconnecting first and second end plates **24**, **26** with lower rail members **18** can be used in combination with the arrangement of FIGS. **6**A-**6**B in which lower positioning teeth **22** are included on floor boards **14** and lower connecting teeth **30** are also included on lower edge surface **52**.

While the present subject matter has been described in detail with respect to specific exemplary embodiments and methods thereof, it will be appreciated that those skilled in the art, upon attaining an understanding of the foregoing may readily produce alterations to, variations of, and equivalents to such embodiments. Accordingly, the scope of the present disclosure is by way of example rather than by way of limitation, and the subject disclosure does not preclude inclusion of such modifications, variations and/or additions to the present subject matter as would be readily apparent to one of ordinary skill in the art using the teachings disclosed herein.

What is claimed is:

1. An adjustable suspended roll packaging system comprising:

a base platform;

a plurality of lower rail members carried by said base platform;

a first end plate engaging said base platform between said lower rail members;

a second end plate engaging said base platform between said lower rail members in an opposing laterally spaced arrangement with said first end plate;

a series of lower positioning teeth included on said base platform;

at least one complementary lower connecting tooth included on each of said first and second end plates engaging said lower positioning teeth of said base platform;

a plurality of upper rail members carried by a plurality of upper slots disposed in an upper edge portion on each of said first and second end plates;

a series of upper positioning teeth included on each of said upper rail members; and,

at least one complementary upper connecting tooth included in each of said upper slots, wherein said upper rail members are received in said upper slots so that said upper positioning teeth engage said at least one upper connecting tooth in interlocking engagement;

whereby said series of upper and lower connecting teeth provide for said first and second end plates to be repositionable to adjust the spacing between said first and second end plates.

2. The packaging system of claim **1** wherein said upper rail members extend from said first end plate to said second end plate and interconnect each said upper edge portion on said first and second end plates.

3. The packaging system of claim 1 wherein said upper rail members extend parallel with said lower rail members.

4. The packaging system of claim 1 wherein said upper positioning teeth on said upper rail members extend along the length of said upper rail members from a first distal end portion to a second distal end portion.

5. The packaging system of claim 1 wherein said lower rail members extend from said first end plate to said second end plate.

6. The packaging system of claim 5 including a notch in each lower corner of said first and second end plates receiving said lower rail members.

7. The packaging system of claim 1 wherein said lower positioning teeth are formed in an upper surface of said base platform.

8. The packaging system of claim 7 wherein said lower positioning teeth extend continuously across said upper surface of said base platform transverse to said lower rail members.

9. The packaging system of claim 8 wherein said at least one connecting tooth is disposed on a lower edge surface of each said first and second end plates.

10. The packaging system of claim 9 wherein said at least one connecting tooth extends continuously across said lower edge surface of each said first and second end plates, wherein said at least one connecting tooth engages said lower positioning teeth continuously across said upper surface of said base platform.

11. The packaging system of claim 1 including a strap slot disposed in a distal end portion of said lower rail members for receiving a securing strap.

12. The packaging system of claim 1 wherein each tooth of said upper and lower connecting teeth and said upper and lower positioning teeth has two inclined engaging surfaces intersecting at a peak in which opposing tooth engaging surfaces are angled at approximately 60 degrees relative to each other.

13. An adjustable suspended roll packaging system comprising:

a base platform;

a plurality of lower rail members carried by said base platform;

a first end plate engaging said base platform between said lower rail members;

a second end plate engaging said base platform between said lower rail members in an opposing laterally spaced arrangement with said first end plate;

a series of lower positioning teeth included on said base platform;

at least one connecting tooth included on each of said first and second end plates engaging said lower positioning teeth in interlocking engagement; and,

a plurality of upper rail members engaging said first and second end plates.

14. The packaging system of claim 13 wherein said plurality of upper rail members are carried by a plurality of upper slots disposed in an upper edge portion on each of said first and second end plates; a series of upper positioning teeth are included on each of said upper rail members; and, at least one complementary upper connecting tooth is included in each of said upper slots, wherein said upper rail members are received in said upper slots so that said upper positioning teeth engage said at least one upper connecting tooth in interlocking engagement.

15. The packaging system of claim 13 wherein said lower positioning teeth are formed in an upper surface of said base platform.

16. The packaging system of claim 13 wherein said lower positioning teeth extend continuously across an upper surface of said base platform transverse to said lower rail members.

17. The packaging system of claim 13 wherein said at least one connecting tooth is disposed on a lower edge surface of each said first and second end plates.

18. The packaging system of claim 13 wherein said at least one connecting tooth extends continuously across a lower edge surface of each said first and second end plates, and said lower positioning teeth extend continuously across an upper surface of said base platform so that said at least one connecting tooth engages said lower positioning teeth continuously across said upper surface of said base platform between said lower rail members.

19. An adjustable suspended roll packaging system comprising:

a base platform;

a plurality of lower rail members carried by said base platform;

a first end plate engaging said base platform between said lower rail members;

a second end plate engaging said base platform between said lower rail members in an opposing laterally spaced arrangement with said first end plate;

a series of lower positioning teeth formed in an upper surface of said base platform and extending continuously across said upper surface transverse to said lower rail members;

at least one connecting tooth extending continuously across a lower edge surface on each of said first and second end plates, wherein said at least one connecting tooth engages said lower positioning teeth continuously across said upper surface of said base platform between said lower rail members in interlocking engagement; and,

a plurality of upper rail members engaging said first and second end plates.

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